

149111

Tuesday, July 19, 2016 2:43:41 PM

N900040100

Setup Start *NS1*

Stop *NS2*

Stop *NS2*

Start Date: 7/13/2016 **Start Qty:** 1.00 ***1***

Cust Item ID:

Required Date: 7/19/2016 **Req'd Qty:** 1.00 ***1***

Customer:

Reference:

Approvals: Process Plan: DAS 21 Date: JUL 20 2016 Tooling: _____ Date: _____
QC: 9-89 Date: _____ SPC (Y/N): _____ Date: _____

Run Start *NR1*

Stop *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	Revision Nbr								
D4634	G								

100

0.00

100

HandThermo

Memo

0.14

Hand Finishing Thermoforming

Pick Kit

AUG 26 2016

DA
6
3-89

110

0.00

110

Small Fab

Memo

0.22

Small Fab

Assemble as per Dwg D4634-143

DAS
07
9-89

14/10/03

1- Scuff bonding surface to eliminate in-perfections and increase bonding and clean with wash& wipe

2- Locate and glue down Channel Assy, angles, brackets, and mounting pads using 3M Plastic welder II.

Batch # 135436

Expiry Date 03/11/2017

3- Apply labels as per Dwg. and seal with 3M 3950 edge sealer

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :				MRB (QSI042) Approval Completed By _____ Lead hand / Supervisor Approval Verification _____ QC / QA Coordinator Approval _____	
Description Work Order Deviation				Disposition					

Root Cause				FAULT CATEGORY			
Environment ☐	☐	No Re-verification ☐	☐	Pressure/Forced ☐	☐	Temperature/Cure ☐	☐
Design ☐	☐	Operator ☐	☐	Bending ☐	☐	Set-up ☐	☐
Doc/Data ☐	☐	Offset/Setup ☐	☐	Centre Not Concentric ☐	☐	BOM/Route ☐	☐
Equip/Tooling ☐	☐	Supplier ☐	☐	Cracks ☐	☐	Broken/Damage/Defect ☐	☐
Handling/Pre ☐	☐	Training ☐	☐	Crimp/Kink/Ripple/Wave ☐	☐	Inspection Incomplete/Unqualified ☐	☐
Material ☐	☐	Use for Testing ☐	☐	Cuffs ☐	☐	Contamination ☐	☐
Internal Transport ☐	☐	Poor Information ☐	☐	Crushing ☐	☐	Countersink ☐	☐
Tribal Knowledge ☐	☐	Rushing ☐	☐	Heat Treat ☐	☐	Cut Too Short ☐	☐
LOA ☐	☐	Product Improvement ☐	☐	Wave/Twist in Tube ☐	☐	Instructions Incomplete/Unclear ☐	☐
Substation ☐	☐	Process Improvement ☐	☐	Marks/Chatter ☐	☐	Drill Holes ☐	☐
Past Expiry Date ☐	☐	Manufacturing Process ☐	☐	OTHER : _____			
Misidentified ☐	☐	Past Due ☐	☐				

Work Order ID 149111

Tuesday, July 19, 2016 2:43:41 PM

149111

Page 2

Item ID: D4634-143

Accept

N900040100

Setup Start

NS1

Revision ID:

Stop

NS2

Item Name: Middle, Center Ceiling Replacement Panel Assembly

Start Date: 7/13/2016 Start Qty: 1.00

1

Cust Item ID:

Required Date: 7/19/2016 Req'd Qty: 1.00

1

Customer:

Reference:

Approvals:

Process Plan: _____

Date: _____

Tooling: _____

Date: _____

Run Start

NR1

QC: _____

Date: _____

SPC (Y/N): _____

Date: _____

Stop

NR2

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
120	QC5- Inspect part completeness to step on W/O	0.00							
120									
QC	Memo	0.00							DAS 9 9-89
Quality Control									
130	Identify as per dwg & Stock Location: _____	0.00							
130									
Packaging	Memo	0.00							DAS 27 9-89
Packaging									
140	QC21- Final Inspection - Work Order Release	0.00							
140									
QC	Memo	0.02							
Quality Control									

NOV 03 2016

16/11/8 dg

DAS
21
9-89

NOV 04 2016

DQA: _____ Date: _____

**WORK ORDER NON-CONFORMANCE / UPDATE**

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :				MRB (QSI042) Approval Completed By _____ Lead hand / Supervisor Approval Verification _____ QC / QA Coordinator Approval _____	
Description Work Order Deviation				Disposition					
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐							
		OTHER : ☐							

Picklist Print

Tuesday, July 19, 2016 2:43:41 PM

Page 1

Work Order ID: 149111

149111

Parent Item: D4634-143

D4634-143

Parent Item Name: Middle, Center Ceiling Replacement Panel Assembly

Start Date: 7/13/2016

Required Date: 7/19/2016

Start Qty: 1.00

Required Qty: 1.00

Comments: IPP Rev. A 12/08/09 New Issue DL
 12/11/08 Document release DL VERIFIED BY:JLM
 Dwg Update DL verf: DD
 DL
 DL
 DL
 IPP Rev B
 IPP Rev C 13/07/09
 IPP Rev D Dwg Update 13/12/23
 IPP REV E Dwg update 14/01/09
 IPP Rev F Dwg. update 14/02/03
 IPP Rev G Dwg. Update 15/01/27 DL

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
---------------------------------	------------------------	---------------	-------------	---------------------	------------------	-----------------	--------------------	----------------	-------------	--------------	---------------	----------------	--------

D4647-1		Manufactured	No			100	Each	12.0000	1	1			
D4647-1									**				
Doubler													

Location	Loc Qty	Loc Code
MF004	12	
125018	4	
129251	8	

D5021-3		Manufactured	No			100	Each	6.0000	1	1			
D5021-3									**				
Foam, Center Panel, Middle													

Location	Loc Qty	Loc Code
ST479a	6	
116254	1	
123922	5	

MS20426AD3-4		Purchased	No			100	Each	4,571.000	4	4			
MS20426AD3-4									**				
RIVET													

Location	Loc Qty	Loc Code
ST312	4571	
m134294	4571	

AUG 24 2016

P10 →

DQA: _____ Date: _____

**WORK ORDER NON-CONFORMANCE / UPDATE**

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: <u>149111</u> Part No. <u>Ø</u> NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date : <u>Oct 3/16</u>		Step #: _____		QTY Effective : _____			MRB (QSI042) Approval DAS 12 9-89 <u>16/10/13</u>		
Description Work Order Deviation <u>REPLACE MS20426AD-3-4 RIVETS WITH CHERRY RIVETS CCR364SS-3-03</u>				Disposition <u>Use as is</u> <u>Acceptable. Ref. W/O 3149080 W/O 3149140</u>				Completed By DAS 12 9-89 <u>16/10/13</u>	
								Lead hand / Supervisor Approval Verification	
								QC / QA Coordinator Approval	

Root Cause				FAULT CATEGORY			
Environment ☐	☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐	
Design ☐	☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐	
Doc/Data ☐	☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐	
Equip/Tooling ☐	☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐	
Handling/Pre ☐	☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐	
Material ☐	☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐	
Internal Transport ☐	☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐	
Tribal Knowledge ☐	☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐	
LOA ☐	☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐	
Substation ☐	☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐	
Past Expiry Date ☐	☐	Manufacturing Process ☐					
Misidentified ☐	☐	Past Due ☐	OTHER : _____				

Picklist Print

Tuesday, July 19, 2016 2:43:41 PM

Page 2

Work Order ID: 149111

149111

Parent Item: D4634-143

D4634-143

Parent Item Name: Middle, Center Ceiling Replacement Panel Assembly

Start Date: 7/13/2016

Required Date: 7/19/2016

Start Qty: 1.00

Required Qty: 1.00

MS20426AD4-6

Purchased

No

100

Each

1,987.000

4

4

MS20426AD4-6

Rivet

Location

Loc Qty

Loc Code

GA

276

M128812

16

M133234

260

ST311

1711

M134502

1711

MS21059L08

Purchased

No

100

Each

193.0000

2

2

MS21059L08

Nut

Location

Loc Qty

Loc Code

ST300

193

m134634

93

m134943

100

D4634-3

Manufactured

No

100

Each

0.0000

1

1

D4634-3

Middle, Center Ceiling Panel

D4636-5

Manufactured

No

100

Each

29.0000

2

2

D4636-5

Bracket

Location

Loc Qty

Loc Code

ST115

29

129249

29

D4664-5

Manufactured

No

100

Each

27.0000

6

6

D4664-5

Spacer

Location

Loc Qty

Loc Code

MF004

27

129261

27

Tuesday, July 19, 2016 2:43:41 PM

Shop Packet Print

AUG 24 2016

Page 2

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :				MRB (QSI042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval	
Description Work Order Deviation				Disposition					
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐		OTHER : _____					

Picklist Print

Tuesday, July 19, 2016 2:43:41 PM

Page 3

Work Order ID: 149111

149111

Parent Item: D4634-143

D4634-143

Parent Item Name: Middle, Center Ceiling Replacement Panel Assembly

Start Date: 7/13/2016

Required Date: 7/19/2016

Start Qty: 1.00

Required Qty: 1.00

D4712-1 Manufactured No

100 Each 0.0000 2 2

D4712-1

Bracket

125020

DAS
6
9-89

D4732-21 Manufactured No

100 Each 14.0000 1 1

D4732-21

Label

DAS
6
9-89

Location

Loc Qty

Loc Code

MF005

14

120071

2

123210

12

D4732-25 Manufactured No

100 Each 15.0000 1 1

D4732-25

Label

DAS
6
9-89

Location

Loc Qty

Loc Code

MF005

15

120073

3

123212

12

MPNY-750S-9-C Purchased No

100 Each 851.0000 3 3

MPNY-750S-9-C

Mounting Pad

DAS
6
9-89

Location

Loc Qty

Loc Code

ST583

851

M130423

851

3

AUG 24 2016

DQA: _____ Date: _____

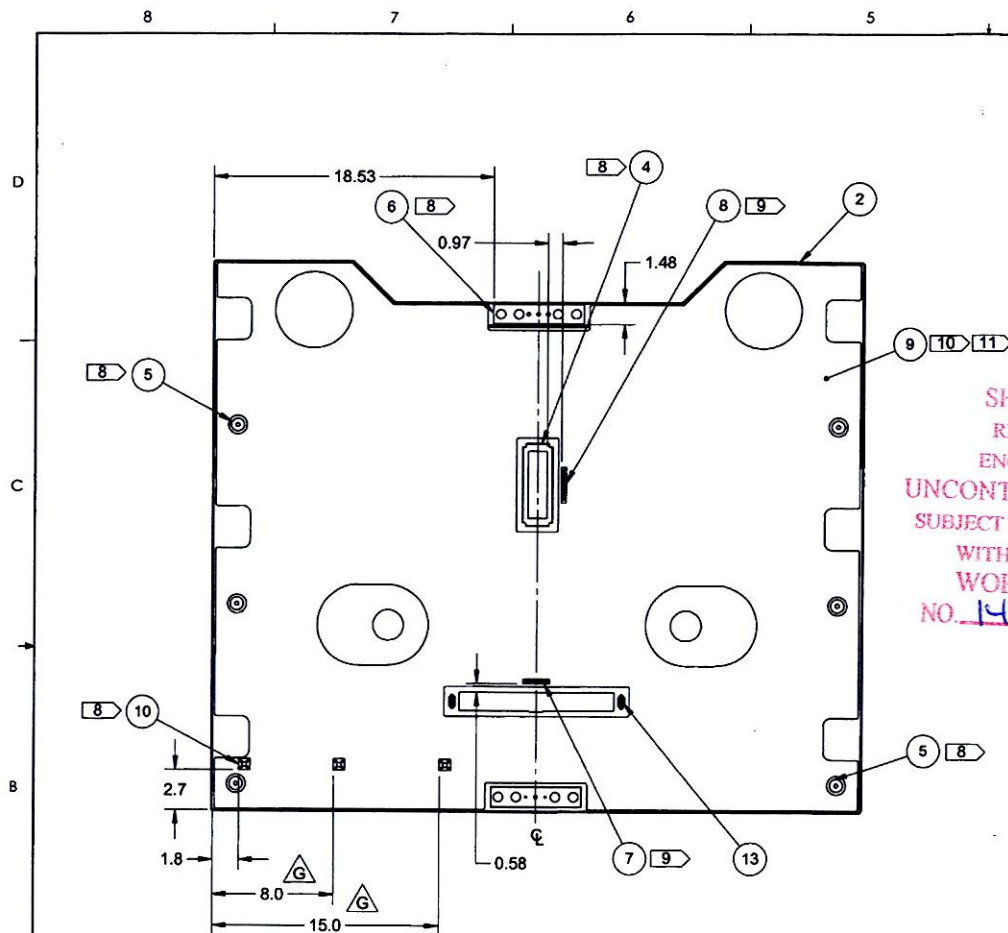


WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐																																																													
Date :		Step #:		QTY Effective :				MRB (QSI042) Approval																																																									
Description Work Order Deviation				Disposition				Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval																																																									
Root Cause		FAULT CATEGORY																																																															
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐	Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐	Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐	Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐	Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐	Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐	Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐	Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐	LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐	Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐	Past Expiry Date ☐	Manufacturing Process ☐	OTHER :			
Misidentified ☐	Past Due ☐																																																																



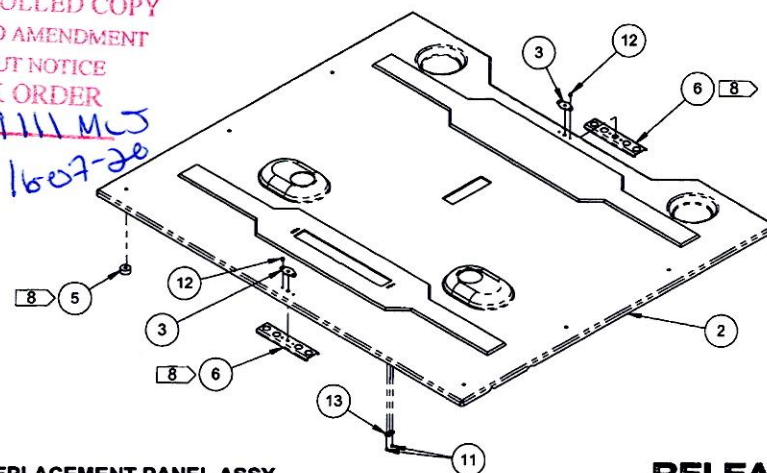
D4634-143 MIDDLE, CENTER CEILING REPLACEMENT PANEL ASSY

NOTES:

- 1) MATERIAL: N/A
- 2) FINISH: N/A
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: N/A
- 7) WEIGHT: N/A
- 8) APPLY A BEAD (0.20 TO 0.30 WIDE) OF DEVCON PLASTIC WELDER II (0.25 INSIDE OF BOTH EDGES OF PART) TO BOND D4647-1, D4664-5 & MPNY-750S-9C. WAIT FOR 2 TO 4 HOURS FOR FUNCTIONAL CURE. LOCATE D4647-1 IN LINE WITH RECTANGULAR OPENING
- 9) LOCATE LABELS AS SHOWN, SEAL LABELS USING 3950 EDGE SEALER OVER LABEL TOP SURFACE
- 10) APPLY AN EVEN COAT OF 3M SCOTCH WELD 1300L CONTACT ADHESIVE TO BOND D5021-3 FOAM CORE TO INSIDE OF PANEL
- 11) CENTER D5021-3 FOAM ON D4634-3

SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 149111 MJS
1607-28

ITEM	QTY -143	P/N	DESCRIPTION
1	X	D4634-143	MIDDLE, CENTER CEILING REPLACEMENT PANEL ASSY
2	1	D4634-3	MIDDLE, CENTER CEILING PANEL
3	2	D4636-5	BRACKET
4	1	D4647-1	DOUBLER
5	6	D4664-5	SPACER
6	2	D4712-1	BRACKET
7	1	D4732-21	LABEL
8	1	D4732-25	LABEL
9	1	D5021-3	FOAM, CENTER PANEL, MIDDLE
10	3	MPNY-750S-9-C	MOUNTING PAD
11	4	MS20426AD3-(4)	RIVET, SOLID, CSK
12	4	MS20426AD4-(6)	RIVET, SOLID, CSK
13	2	MS21059L08	NUT PLATE



RELEASED
2015 JAN 26

APPROVED

DESIGN	RF	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	RF		
CHECKED	AK	DRAWING NO.	REV. G
MFG. APPR.	DL	D4634	SHEET 8 OF 17
APPROVED	HS	TITLE	SCALE
DE APPR.	DS	CENTER CEILING PANELS	NTS
DATE	14.11.28	COPYRIGHT © 2012 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	